

## Containerizing Core Applications for an Access and Identity Management Product

# CASE STUDY

### CHALLENGES

The client aims to improve the scalability, portability, and efficiency of their applications by implementing containerization using Docker. The focus is on containerizing key applications like CID SaaS, RabbitMQ, Hazelcast, and MySQL, among others, to streamline deployment and management.

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### BENEFITS

The benefits that the client achieved are as follows:

- **Improved Scalability:** The solution facilitated seamless scalability, enabling automatic scaling and load balancing of applications to meet changing demands.
  - **Increased Efficiency:** The client streamlined setup and management processes, significantly improving efficiency and reducing deployment complexities.
  - **Enhanced Security:** The solution enhanced security by scanning for vulnerabilities and following secure container practices to protect applications.
  - **Effective Management:** This is achieved with centralized logging, monitoring, and automated health checks to ensure optimal performance and reliability.
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### TECH STACK

- Docker
- MySQL
- RabbitMQ
- Hazelcast
- Prometheus
- Grafana

### SOLUTIONS

The process begins with analyzing application configurations (CID SaaS, Client Creation) and preparing necessary database dumps (Audit DB, Crossid DB). Core components like MySQL, RabbitMQ, and Hazelcast are containerized with custom configurations, health checks, and initial data loading using Docker Compose.

Each application is containerized with multi-stage Dockerfiles, resource limits, and health checks, and then tested in a Docker Compose environment. The environment replication strategy is documented for EC2 instances, ensuring cross-platform compatibility across Windows, Ubuntu, and Redhat 8.x. Security measures include vulnerability scanning and centralized logging with monitoring.

A backup and recovery strategy is implemented, along with documented update and rollback processes for containerized applications.

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